

RECEIVED

#31

NOV 13 2001

OIPE

TECH CENTER 1600/2900

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,998A

DATE: 10/01/2001
TIME: 13:53:30

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

SEQUENCE LISTING

4 (1) GENERAL INFORMATION:

6 (i) APPLICANT: PULST, STEFAN M.
8 (ii) TITLE OF INVENTION: NUCLEIC ACID ENCODING SPINOCEREBELLAR
9 ATAXIA-2 AND PRODUCTS RELATED THERETO

11 (iii) NUMBER OF SEQUENCES: 19

13 (iv) CORRESPONDENCE ADDRESS:

14 (A) ADDRESSEE: MUETING, RAASCH & GEBHARDT, P.A.
15 (B) STREET: 119 NORTH FOURTH STREET, SUITE 203
16 (C) CITY: MINNEAPOLIS
17 (D) STATE: MINNESOTA
18 (E) COUNTRY: 55401
19 (F) ZIP: 55401

21 (v) COMPUTER READABLE FORM:

22 (A) MEDIUM TYPE: Floppy disk
23 (B) COMPUTER: IBM PC compatible
24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
25 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

27 (vi) CURRENT APPLICATION DATA:

28 (A) APPLICATION NUMBER: US/08/981,998A
29 (B) FILING DATE: 11-May-1998
30 (C) CLASSIFICATION:

44 (vii) PRIOR APPLICATION DATA:

33 (A) APPLICATION NUMBER: WO 97/42314
34 (B) FILING DATE: 08-MAY-1997
37 (A) APPLICATION NUMBER: US 08/727,084
38 (B) FILING DATE: 08-OCT-1996
41 (A) APPLICATION NUMBER: US 60/022,207
42 (B) FILING DATE: 19-JUL-1996
45 (A) APPLICATION NUMBER: US 60/017,388
46 (B) FILING DATE: 08-MAY-1996

48 (viii) ATTORNEY/AGENT INFORMATION:

49 (A) NAME: MUETING, ANN M.
50 (B) REGISTRATION NUMBER: 33,977
51 (C) REFERENCE/DOCKET NUMBER: 232.00010120

53 (ix) TELECOMMUNICATION INFORMATION:

54 (A) TELEPHONE: 612-305-1217
55 (B) TELEFAX: 612-305-1228

58 (2) INFORMATION FOR SEQ ID NO: 1:

60 (i) SEQUENCE CHARACTERISTICS:

61 (A) LENGTH: 516 base pairs
62 (B) TYPE: nucleic acid
63 (C) STRANDEDNESS: both
64 (D) TOPOLOGY: both

66 (ii) MOLECULE TYPE: DNA (genomic)

71 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

73 TTGGTAGCAA CGGAAACGGC GGCGGCGCGT TTCGGCCGG CTCCGGCGG CTCCCTGGTC

60

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,998A

DATE: 10/01/2001
TIME: 13:53:30

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

75	TCGGCGGGCC TCCCCGCCCTT CGTCGTCGTCCTCTCC CCTCGCCAGC CGGGCGGCC	120
77	CTCCGGCCGC GCCAACCCGC GCCTCCCCGC TCGGCGCCCG TGCGTCCCCG CGCGGTTCCG	180
79	GCGTCTCCTT GGCGCGCCCG GCTCCCGGCT GTCCCCGCCG GCGTGCAGC CGGGTGTATG	240
81	GGCCCTCAC CATGTGCGCTG AAGCCCCAGC AGCAGCAGCA GCAGCAGCAG CAACAGCAGC	300
83	AGCAGCAACA GCAGCAGCAG CAGCAGCAGC AGCCGCCGCC CGCGGCTGCC AATGTCCGCA	360
85	AGCCCGGGCGG CAGCGGCCCTT CTAGCGTCGC CGGCCGCCGC GCCTTCGCCG TCCTCGTCCT	420
87	CGGTCTCCTC GTCCTCGGCC ACGGCTCCCT CCTCGGTGGT CGCGGCGACC TCCGGCGGCC	480
89	GGAGGCCGG CCTGGGCAGG TGGGTGTCGG CACCCC	516
91	(2) INFORMATION FOR SEQ ID NO: 2:	
93	(i) SEQUENCE CHARACTERISTICS:	
94	(A) LENGTH: 4481 base pairs	
95	(B) TYPE: nucleic acid	
96	(C) STRANDEDNESS: both	
97	(D) TOPOLOGY: both	
99	(ii) MOLECULE TYPE: cDNA	
102	(ix) FEATURE:	
103	(A) NAME/KEY: CDS	
104	(B) LOCATION: 163..4101	
107	(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:	
109	ACCCCGAGA AAGCAACCCA GCGCGCCGCC CGCTCCTCAC GTGTCCCTCC CGGGCCCCGGG	60
111	GCCACCTCAC GTTCTGCTTC CGTCTGACCC CTCCGACTTC CGGTAAAGAG TCCCTATCCG	120
113	CACCTCCGCT CCCACCCGGC GCCTCGGCCGC GCCCGCCCTC CG ATG CGC TCA GCG	174
114	Met Arg Ser Ala	
115	1	
118	GCC GCA GCT CCT CGG AGT CCC GCG GTG GCC ACC GAG TCT CGC CGC TTC	222
119	Ala Ala Ala Pro Arg Ser Pro Ala Val Ala Thr Glu Ser Arg Arg Phe	
120	5 10 15 20	
122	GCC GCA GCC AGG TGG CCC GGG TGG CGC TCG CTC CAG CGG CCG GCG CGG	270
123	Ala Ala Ala Arg Trp Pro Gly Trp Arg Ser Leu Gln Arg Pro Ala Arg	
124	25 30 35	
126	CGG AGC GGG CGG GGC GGT GGC GCG GCC CCG GGA CCG TAT CCC TCC	318
127	Arg Ser Gly Arg Gly Gly Gly Ala Ala Pro Gly Pro Tyr Pro Ser	
128	40 45 50	
130	GCC GCC CCT CCC CCG CCC GGC CCC CCT CCC TCC CGG CAG AGC	366
131	Ala Ala Pro Pro Pro Gly Pro Gly Pro Pro Ser Arg Gln Ser	
132	55 60 65	
134	TCG CCT CCC TCC GCC TCA GAC TGT TTT GGT AGC AAC GGC AAC GGC GGC	414
135	Ser Pro Pro Ser Ala Ser Asp Cys Phe Gly Ser Asn Gly Asn Gly	
136	70 75 80	
138	GGC GCG TTT CGG CCC GGC TCC CGG CGG CTC CTT GGT CTC GGC GGG CCT	462
139	Gly Ala Phe Arg Pro Gly Ser Arg Arg Leu Leu Gly Leu Gly Pro	
140	85 90 95 100	
142	CCC CGC CCC TTC GTC GTC CTT CTC CCC CTC GCC AGC CCG GGC GCC	510
143	Pro Arg Pro Phe Val Val Val Leu Leu Pro Leu Ala Ser Pro Gly Ala	
144	105 110 115	
146	CCT CCG GCC GCG CCA ACC CGC GCC TCC CCG CTC GGC GCC CGT CGC TCC	558
147	Pro Pro Ala Ala Pro Thr Arg Ala Ser Pro Leu Gly Ala Arg Ala Ser	
148	120 125 130	
150	CCG CCG CGT TCC GGC GTC TCC TTG GCG CGC CCG GCT CCC GGC TGT CCC	606

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,998A

DATE: 10/01/2001
TIME: 13:53:30

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

151	Pro	Pro	Arg	Ser	Gly	Val	Ser	Leu	Ala	Arg	Pro	Ala	Pro	Gly	Cys	Pro	
152	135						140						145				
154	CGC	CCG	GCG	TGC	GAG	CCG	GTG	TAT	GGG	CCC	CTC	ACC	ATG	TCG	CTG	AAG	654
155	Arg	Pro	Ala	Cys	Glu	Pro	Val	Tyr	Gly	Pro	Leu	Thr	Met	Ser	Leu	Lys	
156	150						155					160					
158	CCC	CAG	CAA	CAG	CAG	CAG	CAG	CAA	CAG	702							
159	Pro	Gln															
160	165				170			175				180					
162	CAG	CAG	CAG	CAG	CAG	CCG	CCG	CCC	GCG	GCT	GCC	AAT	GTC	CGC	750		
163	Gln	Gln	Gln	Gln	Gln	Pro	Pro	Pro	Pro	Ala	Ala	Ala	Asn	Val	Arg		
164					185			190				195					
166	AAG	CCC	GGC	GGC	AGC	GGC	CTT	CTA	GCG	TCG	CCC	GCC	GCC	GCG	CCT	TCG	798
167	Lys	Pro	Gly	Gly	Ser	Gly	Leu	Leu	Ala	Ser	Pro	Ala	Ala	Ala	Pro	Ser	
168					200			205				210					
170	CCG	TCC	TCG	TCC	TCG	GTC	TCC	TCG	TCG	GCC	ACG	GCT	CCC	TCC	TCG	846	
171	Pro	Ser	Ser	Ser	Val	Ser	Ser	Ser	Ser	Ala	Thr	Ala	Pro	Ser	Ser		
172					215			220				225					
176	GTG	GTC	GCG	GCG	ACC	TCC	GGC	GGC	GGG	AGG	CCC	GGC	CTG	GGC	AGA	GGT	894
177	Val	Val	Ala	Ala	Thr	Ser	Gly	Gly	Gly	Arg	Pro	Gly	Leu	Gly	Arg	Gly	
178					230			235				240					
180	CGA	AAC	AGT	AAC	AAA	GGA	CTG	CCT	CAG	TCT	ACG	ATT	TCT	TTT	GAT	GGA	942
181	Arg	Asn	Ser	Asn	Lys	Gly	Leu	Pro	Gln	Ser	Thr	Ile	Ser	Phe	Asp	Gly	
182	245				250			255				260					
184	ATC	TAT	GCA	AAT	ATG	AGG	ATG	GTT	CAT	ATA	CTT	ACA	TCA	GTT	GTC	990	
185	Ile	Tyr	Ala	Asn	Met	Arg	Met	Val	His	Ile	Leu	Thr	Ser	Val	Val	Gly	
186					265			270				275					
188	TCC	AAA	TGT	GAA	GTA	CAA	GTG	AAA	AAT	GGA	GGT	ATA	TAT	GAA	GGA	GTT	1038
189	Ser	Lys	Cys	Glu	Val	Gln	Val	Lys	Asn	Gly	Gly	Ile	Tyr	Glu	Gly	Val	
190					280			285				290					
192	TTT	AAA	ACT	TAC	AGT	CCG	AAG	TGT	GAT	TTG	GTA	CTT	GAT	GCC	GCA	CAT	1086
193	Phe	Lys	Thr	Tyr	Ser	Pro	Lys	Cys	Asp	Leu	Val	Leu	Asp	Ala	Ala	His	
194					295			300				305					
196	GAG	AAA	AGT	ACA	GAA	TCC	AGT	TCG	GGG	CCG	AAA	CGT	GAA	GAA	ATA	ATG	1134
197	Glu	Lys	Ser	Thr	Glu	Ser	Ser	Gly	Pro	Lys	Arg	Glu	Glu	Ile	Met		
198					310			315				320					
200	GAG	AGT	ATT	TTG	TTC	AAA	TGT	TCA	GAC	TTT	GTT	GTG	GTA	CAG	TTT	AAA	1182
201	Glu	Ser	Ile	Leu	Phe	Lys	Cys	Ser	Asp	Phe	Val	Val	Val	Gln	Phe	Lys	
202	325				330			335				340					
204	GAT	ATG	GAC	TCC	AGT	TAT	GCA	AAA	AGA	GAT	GCT	TTT	ACT	GAC	TCT	GCT	1230
205	Asp	Met	Asp	Ser	Ser	Tyr	Ala	Lys	Arg	Asp	Ala	Phe	Thr	Asp	Ser	Ala	
206					345			350				355					
208	ATC	AGT	GCT	AAA	GTG	AAT	GGC	GAA	CAC	AAA	GAG	AAG	GAC	CTG	GAG	CCC	1278
209	Ile	Ser	Ala	Lys	Val	Asn	Gly	Glu	His	Lys	Glu	Lys	Asp	Leu	Glu	Pro	
210					360			365				370					
212	TGG	GAT	GCA	GGT	GAA	CTC	ACA	GCC	AAT	GAG	GAA	CTT	GAG	GCT	TTG	GAA	1326
213	Trp	Asp	Ala	Gly	Glu	Leu	Thr	Ala	Asn	Glu	Glu	Leu	Glu	Ala	Leu	Glu	
214					375			380				385					
216	AAT	GAC	GTA	TCT	AAT	GGA	TGG	GAT	CCC	AAT	GAT	ATG	TTT	CGA	TAT	AAT	1374
217	Asn	Asp	Val	Ser	Asn	Gly	Trp	Asp	Pro	Asn	Asp	Met	Phe	Arg	Tyr	Asn	

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

218	390	395	400	
220	GAA GAA AAT TAT GGT GTA GTG TCT ACG TAT GAT AGC AGT TTA TCT TCG			1422
221	Glu Glu Asn Tyr Gly Val Val Ser Thr Tyr Asp Ser Ser Leu Ser Ser			
222	405	410	415	420
224	TAT ACA GTG CCC TTA GAA AGA GAT AAC TCA GAA GAA TTT TTA AAA CGG			1470
225	Tyr Thr Val Pro Leu Glu Arg Asp Asn Ser Glu Glu Phe Leu Lys Arg			
226	425	430	435	
228	GAA GCA AGG GCA AAC CAG TTA GCA GAA GAA ATT GAG TCA AGT GCC CAG			1518
229	Glu Ala Arg Ala Asn Gln Leu Ala Glu Glu Ile Glu Ser Ser Ala Gln			
230	440	445	450	
234	TAC AAA GCT CGA GTG GCC CTG GAA AAT GAT GAT AGG AGT GAG GAA GAA			1566
235	Tyr Lys Ala Arg Val Ala Leu Glu Asn Asp Asp Arg Ser Glu Glu Glu			
236	455	460	465	
238	AAA TAC ACA GCA GTT CAG AGA AAT TCC AGT GAA CGT GAG GGG CAC AGC			1614
239	Lys Tyr Thr Ala Val Gln Arg Asn Ser Ser Glu Arg Glu Gly His Ser			
240	470	475	480	
242	ATA AAC ACT AGG GAA AAT AAA TAT ATT CCT CCT GGA CAA AGA AAT AGA			1662
243	Ile Asn Thr Arg Glu Asn Lys Tyr Ile Pro Pro Gly Gln Arg Asn Arg			
244	485	490	495	500
246	GAA GTC ATA TCC TGG GGA AGT GGG AGA CAG AAT TCA CCG CGT ATG GGC			1710
247	Glu Val Ile Ser Trp Gly Ser Gly Arg Gln Asn Ser Pro Arg Met Gly			
248	505	510	515	
250	CAG CCT GGA TCG GGC TCC ATG CCA TCA AGA TCC ACT TCT CAC ACT TCA			1758
251	Gln Pro Gly Ser Gly Ser Met Pro Ser Arg Ser Thr Ser His Thr Ser			
252	520	525	530	
254	GAT TTC AAC CCG AAT TCT GGT TCA GAC CAA AGA GTA GTT AAT GGA GGT			1806
255	Asp Phe Asn Pro Asn Ser Gly Ser Asp Gln Arg Val Val Asn Gly Gly			
256	535	540	545	
258	GTT CCC TGG CCA TCG CCT TGC CCA TCT CCT CCT TCT CGC CCA CCT TCT			1854
259	Val Pro Trp Pro Ser Pro Cys Pro Ser Pro Ser Arg Pro Pro Ser			
260	550	555	560	
262	CGC TAC CAG TCA GGT CCC AAC TCT CTT CCA CCT CGG GCA GCC ACC CCT			1902
263	Arg Tyr Gln Ser Gly Pro Asn Ser Leu Pro Pro Arg Ala Ala Thr Pro			
264	565	570	575	580
266	ACA CGG CCG CCC TCC AGG CCC CCC TCG CGG CCA TCC AGA CCC CCG TCT			1950
267	Thr Arg Pro Pro Ser Arg Pro Pro Ser Arg Pro Ser Arg Pro Pro Ser			
268	585	590	595	
270	CAC CCC TCT GCT CAT GGT TCT CCA GCT CCT GTC TCT ACT ATG CCT AAA			1998
271	His Pro Ser Ala His Gly Ser Pro Ala Pro Val Ser Thr Met Pro Lys			
272	600	605	610	
274	CGC ATG TCT TCA GAA GGG CCT CCA AGG ATG TCC CCA AAG GCC CAG CGA			2046
275	Arg Met Ser Ser Glu Gly Pro Pro Arg Met Ser Pro Lys Ala Gln Arg			
276	615	620	625	
278	CAT CCT CGA AAT CAC AGA GTT TCT GCT GGG AGG GGT TCC ATA TCC AGT			2094
279	His Pro Arg Asn His Arg Val Ser Ala Gly Arg Gly Ser Ile Ser Ser			
280	630	635	640	
282	GGC CTA GAA TTT GTA TCC CAC AAC CCA CCC AGT GAA GCA GCT ACT CCT			2142
283	Gly Leu Glu Phe Val Ser His Asn Pro Pro Ser Glu Ala Ala Thr Pro			
284	645	650	655	660

RAW SEQUENCE LISTING
PATENT APPLICATION: US/08/981,998A

DATE: 10/01/2001
TIME: 13:53:30

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

286 CCA GTA GCA AGG ACC AGT CCC TCG GGG GGA ACG TGG TCA TCA GTG GTC	2190
287 Pro Val Ala Arg Thr Ser Pro Ser Gly Gly Thr Trp Ser Ser Val Val	
288 665 670 675	
292 AGT GGG GTT CCA AGA TTA TCC CCT AAA ACT CAT AGA CCC AGG TCT CCC	2238
293 Ser Gly Val Pro Arg Leu Ser Pro Lys Thr His Arg Pro Arg Ser Pro	
294 680 685 690	
296 AGA CAG AAC AGT ATT GGA AAT ACC CCC AGT GGG CCA GTT CTT GCT TCT	2286
297 Arg Gln Asn Ser Ile Gly Asn Thr Pro Ser Gly Pro Val Leu Ala Ser	
298 695 700 705	
300 CCC CAA GCT GGT ATT ATT CCA ACT GAA GCT GTT GCC ATG CCT ATT CCA	2334
301 Pro Gln Ala Gly Ile Ile Pro Thr Glu Ala Val Ala Met Pro Ile Pro	
302 710 715 720	
304 GCT GCA TCT CCT ACG CCT GCT AGT CCT GCA TCG AAC AGA GCT GTT ACC	2382
305 Ala Ala Ser Pro Thr Pro Ala Ser Pro Ala Ser Asn Arg Ala Val Thr	
306 725 730 735 740	
308 CCT TCT AGT GAG GCT AAA GAT TCC AGG CTT CAA GAT CAG AGG CAG AAC	2430
309 Pro Ser Ser Glu Ala Lys Asp Ser Arg Leu Gln Asp Gln Arg Gln Asn	
310 745 750 755	
312 TCT CCT GCA GGG AAT AAA GAA AAT ATT AAA CCC AAT GAA ACA TCA CCT	2478
313 Ser Pro Ala Gly Asn Lys Glu Asn Ile Lys Pro Asn Glu Thr Ser Pro	
314 760 765 770	
316 AGC TTC TCA AAA GCT GAA AAC AAA GGT ATA TCA CCA GTT GTT TCT GAA	2526
317 Ser Phe Ser Lys Ala Glu Asn Lys Gly Ile Ser Pro Val Val Ser Glu	
318 775 780 785	
320 CAT AGA AAA CAG ATT GAT GAT TTA AAG AAA TTT AAG AAT GAT TTT AGG	2574
321 His Arg Lys Gln Ile Asp Asp Leu Lys Phe Lys Asn Asp Phe Arg	
322 790 795 800	
324 TTA CAG CCA AGT TCT ACT TCT GAA TCT ATG GAT CAA CTA CTA AAC AAA	2622
325 Leu Gln Pro Ser Ser Thr Ser Glu Ser Met Asp Gln Leu Leu Asn Lys	
326 805 810 815 820	
328 AAT AGA GAG GGA GAA AAA TCA AGA GAT TTG ATC AAA GAC AAA ATT GAA	2670
329 Asn Arg Glu Gly Glu Lys Ser Arg Asp Leu Ile Lys Asp Lys Ile Glu	
330 825 830 835	
332 CCA AGT GCT AAG GAT TCT TTC ATT GAA AAT AGC AGC AGC AAC TGT ACC	2718
333 Pro Ser Ala Lys Asp Ser Phe Ile Glu Asn Ser Ser Asn Cys Thr	
334 840 845 850	
336 AGT GGC AGC AGC AAG CCG AAT AGC CCC AGC ATT TCC CCT TCA ATA CTT	2766
337 Ser Gly Ser Ser Lys Pro Asn Ser Pro Ser Ile Ser Pro Ser Ile Leu	
338 855 860 865	
340 AGT AAC ACG GAG CAC AAG AGG GGA CCT GAG GTC ACT TCC CAA GGG GTT	2814
341 Ser Asn Thr Glu His Lys Arg Gly Pro Glu Val Thr Ser Gln Gly Val	
342 870 875 880	
344 CAG ACT TCC AGC CCA GCA TGT AAA CAA GAG AAA GAC GAT AAG GAA GAG	2862
345 Gln Thr Ser Ser Pro Ala Cys Lys Gln Glu Lys Asp Asp Lys Glu Glu	
346 885 890 895 900	
350 AAG AAA GAC GCA GCT GAG CAA GTT AGG AAA TCA ACA TTG AAT CCC AAT	2910
351 Lys Lys Asp Ala Ala Glu Gln Val Arg Lys Ser Thr Leu Asn Pro Asn	
352 905 910 915	
354 GCA AAG GAG TTC AAC CCA CGT TCC TTC TCT CAG CCA AAG CCT TCT ACT	2958

VERIFICATION SUMMARY

PATENT APPLICATION: US/08/981,998A

DATE: 10/01/2001

TIME: 13:53:31

Input Set : A:\010910.revised.SUB.SEQUENCE.LST.0120.txt
Output Set: N:\CRF3\10012001\H981998A.raw

L:28 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:29 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]